IN THE CLAIMS

Please amend the claims as indicated by the amended claim set below.

1. (previously presented) Apparatus for controlling the deformation of an implant during deployment thereof, comprising:

a force application mechanism for applying deforming force to the implant, by axial motion of a force applicator against the implant; and

a restraint element positioning mechanism that positions a restraining element such that the deformation of the implant is controlled by restraint of the restraining element on allowable deformation; and

a synchronizer that synchronizers the motion of the restraining element and the force applicator, to achieve a desired deformation of the implant.

2. (previously presented) Apparatus according to claim 1, comprising a force input which receives continuous motion and couples it to the force application mechanism and to the restraint element positioning mechanism.

3. (previously presented) Apparatus according to claim 2, wherein said continuous motion is reciprocating motion.

4. (previously presented) Apparatus according to claim 3, wherein said restraint positioning mechanism moves said restraint element during one stroke of said reciprocating motion.

5. (previously presented) Apparatus according to claim 4, wherein said one stroke comprises a retraction of said restraint mechanism from said implant.

6. (previously presented) Apparatus according to claim 3, wherein said force application mechanism moves said force applicator during one stroke of said reciprocating motion.

7. (previously presented) Apparatus according to claim 6, wherein said one stroke comprises a retraction of said force applicator from said implant.

8. (previously presented) Apparatus according to claim 6, wherein said one stroke comprises an advance of said force applicator towards said implant.

9. (previously presented) Apparatus according to claim 2, wherein said force application mechanism comprises a selective coupler that selectively couples said input motion to said force applicator.

10. (previously presented) Apparatus according to claim 2, wherein said element positioning mechanism comprises a selective coupler that selectively couples said input motion to said restraining element.

11. (currently amended) Apparatus according to claim 2, wherein said synchronized motion is repetitive[[,]] and comprises a plurality of cycles of positioning said restraining element and applying said force.

12. (previously presented) Apparatus according to claim 2, wherein said motion is applied simultaneously to said restraint element positioning mechanism and to said force application mechanism.

13. (previously presented) Apparatus according to claim 2, wherein said motion is applied alternately to said restraint element positioning mechanism and to said force application mechanism.

14. (currently amended) Apparatus according to claim 13, comprising an alternating locking mechanism that alternately couples the motion ~~form~~ from the force input to the restraint element positioning mechanism and to the force application mechanism.

15. (previously presented) Apparatus according to claim 2, wherein said force input comprises a manual force input.

16. (previously presented) Apparatus according to claim 2, wherein said force input comprises a motorized force input.

17. (previously presented) Apparatus according to claim 1, wherein said synchronizer is integrated with said mechanisms.

18. (previously presented) Apparatus according to claim 1, wherein said synchronizer is manual, providing an indication to an operator to switch between the mechanisms.

19. (previously presented) Apparatus according to claim 1, wherein said synchronizer is automatic, switching by itself between the mechanisms.

20. (previously presented) Apparatus according to claim 1, wherein said synchronizer comprises a pin extractor for decoupling a pin from one mechanism and coupling the pin to another mechanism.

21. (original) Apparatus according to claim 20, wherein said synchronizer comprises a spring for urging said pin towards one of said mechanisms and an inclined plane for withdrawing said pin from said one mechanism and urging said pin towards said other mechanism.

22. (previously presented) Apparatus according to claim 1, wherein said synchronizer blocks the motion of one of said mechanisms when a desired motion effect of said mechanism is achieved.

23. (original) Apparatus according to claim 22, comprising a pin that engages an aperture to effect said locking.

24. (previously presented) Apparatus according to claim 1, wherein said restraint mechanism comprises an unevenly surfaced element for coupling said motion to said restraint element.

25. (previously presented) Apparatus according to claim 1, wherein said force application mechanism comprises an unevenly surfaced element for coupling said motion to said force applicator.

26. (previously presented) Apparatus according to claim 24, wherein said unevenly surfaced element comprises a nubbed plate.

27. (original) Apparatus according to claim 26, wherein said nubs are one-way nubs that allow an arm element of said mechanisms to slip over them when the arm travels in one direction relative to the nubs and engages the arm when the arm travels in the opposite relative direction.

28. (previously presented) Apparatus according to claim 24, wherein said unevenly surfaced element comprises an apertured plate.

29. (previously presented) Apparatus according to claim 24, wherein said uneven surface comprises even surface portions separated, by uneven surface portions, a plurality of separation distances defined by said separation of surface portions.

30. (original) Apparatus according to claim 29, wherein said separation distances determine the deformation of said implant.

31. (previously presented) Apparatus according to claim 29, wherein said separation distances take into account a plastic deformation of said implant.

32. (previously presented) Apparatus according to claim 29, wherein said separation distances take into account an elastic deformation of said implant.

33. (previously presented) Apparatus according to claim 29, wherein said separation distances take into account a spring-back of said implant.

34. (previously presented) Apparatus according to claim 1, wherein said force applicator and said force application mechanism are substantially restricted to a straight, narrow, elongate volume, thereby reducing moments on the force application mechanism.

35. (previously presented) Apparatus according to claim 1, wherein said force applicator pushes against said implant.

36. (previously presented) Apparatus according to claim 1, wherein said force applicator pulls a base against a far side of said implant.

37. (previously presented) Apparatus according to claim 1, wherein said force applicator exhibits axial motion, along an axis connecting the force applicator and the implant.

38. (previously presented) Apparatus according to claim 1, wherein said force applicator exhibits rotational motion, around an axis connecting the force applicator and the implant.

39. (original) Apparatus according to claim 37, wherein said force applicator exhibits only axial motion, along an axis connecting the force applicator and the implant.

40. (previously presented) Apparatus according to claim 1, wherein said restraint element exhibits axial motion, along an axis connecting the force applicator and the implant.

41. (previously presented) Apparatus according to claim 1, wherein said restraint element exhibits rotational motion, around an axis connecting the force applicator and the implant.

42. (original) Apparatus according to claim 40, wherein said force applicator exhibits only axial motion, during times when force is applied by it to the implant, along an axis connecting the force applicator and the implant.

43. (previously presented) Apparatus according to claim 1, wherein said force applicator applies at least 20 Kg to said implant.

44. (previously presented) Apparatus according to claim 1, wherein said force applicator applies at least 40 Kg to said implant.

45. (previously presented) Apparatus according to claim 1, wherein said force applicator applies at least 60 Kg to said implant.

46. (previously presented) Apparatus according to claim 1, wherein said force applicator applies at least 100 Kg to said implant.

47. (previously presented) Apparatus according to claim 1, wherein said restraint element and said force applicator are elongate elements.

48. (original) Apparatus according to claim 47, wherein said restraint element and said force applicator are cylindrical elements.

49. (previously presented) Apparatus according to claim 47, wherein said cylindrical elements are tubes.

50. (previously presented) Apparatus according to claim 1, wherein said force applicator comprises two concentric elements, an outer element which applies force away from said apparatus towards said implant and an inner counter force element that applies force from said implant towards said apparatus.

51. (original) Apparatus according to claim 50, wherein said inner element is mechanically coupled to said implant.

52. (original) Apparatus according to claim 50, wherein said outer element is mechanically coupled to said implant.

53. (previously presented) Apparatus according to claim 50, wherein said motion of said force applicator comprises motion of only one of said concentric elements relative to said apparatus.

54. (original) Apparatus according to claim 53, wherein said inner element retracts towards said apparatus during said motion of said force applicator.

55. (original) Apparatus according to claim 53, wherein said outer element advances away from said apparatus during said motion of said force applicator.

56. (previously presented) Apparatus according to claim 50, wherein said inner element is decoupled from said implant by unscrewing it.

57. (original) Apparatus according to claim 56, wherein said inner element extends substantially all the way through said apparatus.

58. (previously presented) Apparatus according to claim 1, comprising a handle for holding said apparatus by an operator.

59. (previously presented) Apparatus according to claim 1, comprising means for fixing said apparatus to said patient.

60. (previously presented) Apparatus according to claim 1, comprising means for fixing said apparatus to a bed on which said patient lies.

61. (previously presented) Apparatus according to claim 1, wherein said synchronizer adapts said apparatus for deforming a particular implant from a set of same types of implants having different geometries.

62. (previously presented) Apparatus according to claim 1, wherein said synchronizer synchronizes said force applicator to apply force to said implant after said implant is completely expanded.

63. (previously presented) Apparatus according to claim 1 wherein said restraint element has an outer diameter of less than 7 mm.

64. (previously presented) Apparatus according to claim 1 wherein said restraint element has an outer diameter of less than 6 mm.

65. (previously presented) Apparatus according to claim 1 wherein said restraint element has an outer diameter of less than 5 mm.

66. (previously presented) Apparatus according to claim 1 wherein said restraint element has an outer diameter of less than 4 mm.

67. (previously presented) Apparatus according to claim 1, wherein said implant is a spinal implant for fusing adjacent vertebrae.

68. (previously presented) Apparatus according to claim 1, wherein said implant is an axially contracting and radially expanding implant.

69. (previously presented) Apparatus according to claim 1, wherein said implant comprises a slotted tube, which as it contracts, radially extends a plurality of spikes and wherein said restraining element encloses said tube and prevents the extension of at least one of said spikes.

70. (previously presented) Apparatus according to claim 1, wherein said implant comprises a slotted tube, to which force is applied against an end of said tube, to deform the tube.

71. (previously presented) Apparatus according to claim 1, wherein said implant radially expands by said deforming at least by a ratio of two.

72. (previously presented) Apparatus according to claim 1 wherein said implant radially expands by said deforming at least by a ratio of four.

73. (original) A method of controlling the deformation of an implant, comprising:

providing a medical implant;

positioning a restraining element relative to said implant, which restraining element prevents deformation of at least some of said implant;

applying a deformation force to said implant using at least one tube;

controlling the deformation of the implant using the restraining element;

moving said restraining element to a new position; and

repeating said applying, said controlling and said moving, a plurality of times.

74. (original) A method according to claim 73, wherein said deformation comprises radial expansion.

75. (previously presented) A method according to claim 73, wherein said restraining element is inside said implant.

76. (previously presented) A method according to claim 73, wherein said restraining element is outside said implant.

77. (previously presented) A method according to claim 73, wherein said motion of said restraining element is controlled using a mechanism external to the implant.

78. (original) A method according to claim 77, wherein said external mechanism receives a continuous motion input from an operator.

79. (original) A method according to claim 78, comprising converting said continuous motion into discrete motion of said restraining element.

80. (previously presented) A method according to claim 78, comprising converting said continuous motion into discrete application of force to said implant.

81. (previously presented) A method according to claim 73, wherein said motion and said force application do not overlap in time.

82. (previously presented) A method according to claim 73, wherein said motion and said force application do overlap in time.

83. (original) A method of controlling the deformation of an implant, composing:

providing an axial implant having a plurality of spikes extending radially thereto, arranged along the implant's axis, which implant is in a collapsed state where said spikes do not extend;

enclosing said implant with a collar that restrains the extension of said spikes;

inserting said implant into a desired location;

retracting said collar to allow at least one spike to extend; and

repeating said retracting until substantially all of said spikes are extended.

84. (original) A method according to claim 83, wherein said spikes extend as a result of forces stored within said implant.

85. (original) A method according to claim 84, wherein said implant is formed of a super-elastic material.

86. (original) A method according to claim 84, wherein said implant is formed of a shape-memory material.

87. (original) A method according to claim 83, wherein said spikes extend as a result of forces applied externally to said implant.

88. (original) A method according to claim 87, wherein said forces are axially applied to said implant.

89. (original) A method according to claim 88, comprising applying an axial force to said implant after all of said spikes are extended.

Claims 90-99 (canceled)

100. (New) Apparatus for controlling the deformation of a tube having a slotted section, comprising:

a force application mechanism for applying deforming force to the slotted section, by axial motion of a force applicator against the slotted section; and

a restraint element positioning mechanism that positions a restraining element such that the deformation of the slotted section is controlled by restraint of the restraining element on allowable deformation; and

a synchronizer that synchronizers the motion of the restraining element and the force applicator, to achieve a desired deformation of the slotted section

101. (New) An apparatus according to claim 100, wherein said slotted section is formed of plastic.